To Menu

With Sound

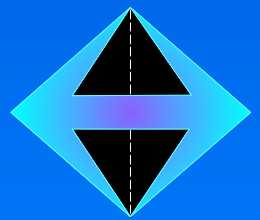
Access Management

An Important Traffic Management Strategy

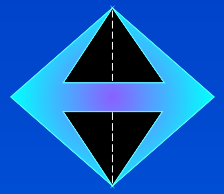
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

WHY DO WE MANAGE ACCESS?

The final "product" of Access Management is the safe and efficient flow of traffic through the road system and access to their destination

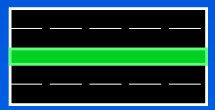


WHAT IS Access Management?



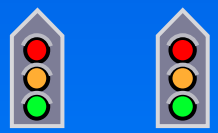
The Control and Regulation of the Spacing and Design of:

DRIVEWAYS



MEDIANS

MEDIAN OPENINGS



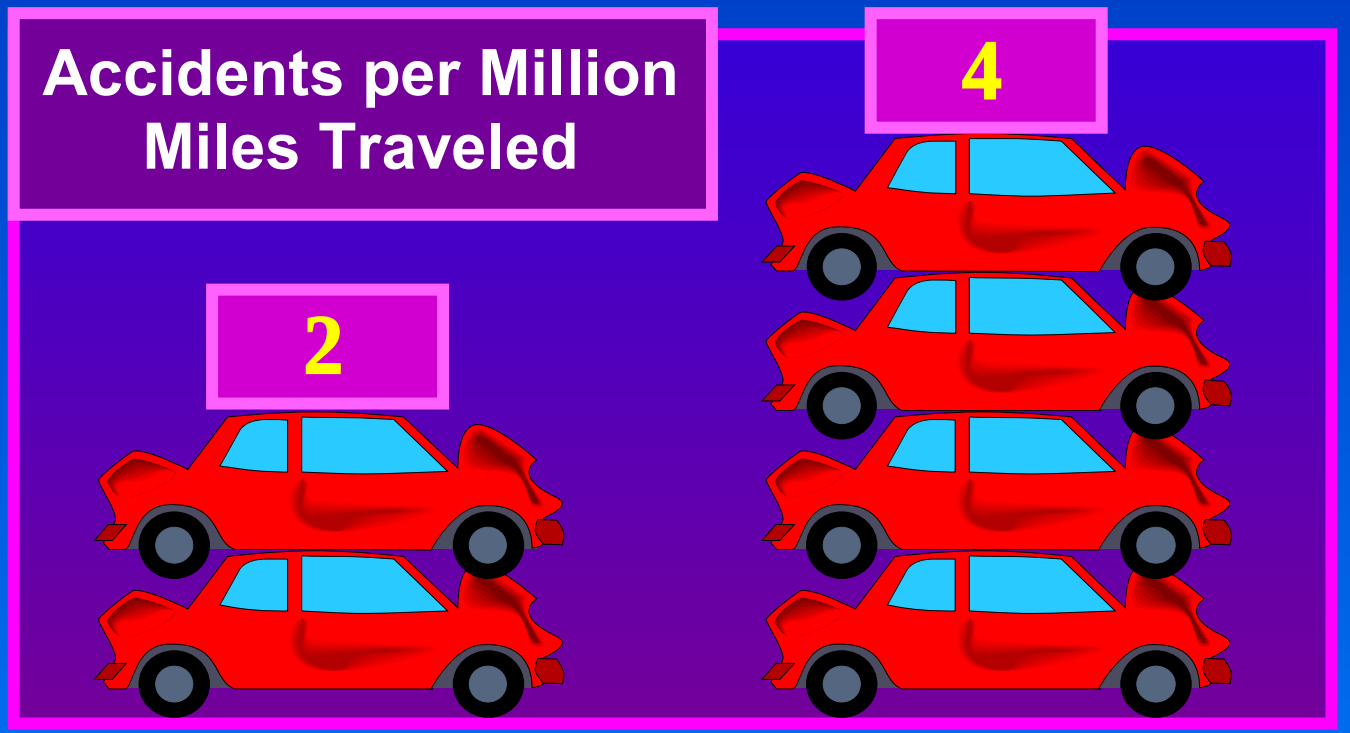
TRAFFIC SIGNALS

FREEWAY INTERCHANGES

What are the Benefits of Access Management?

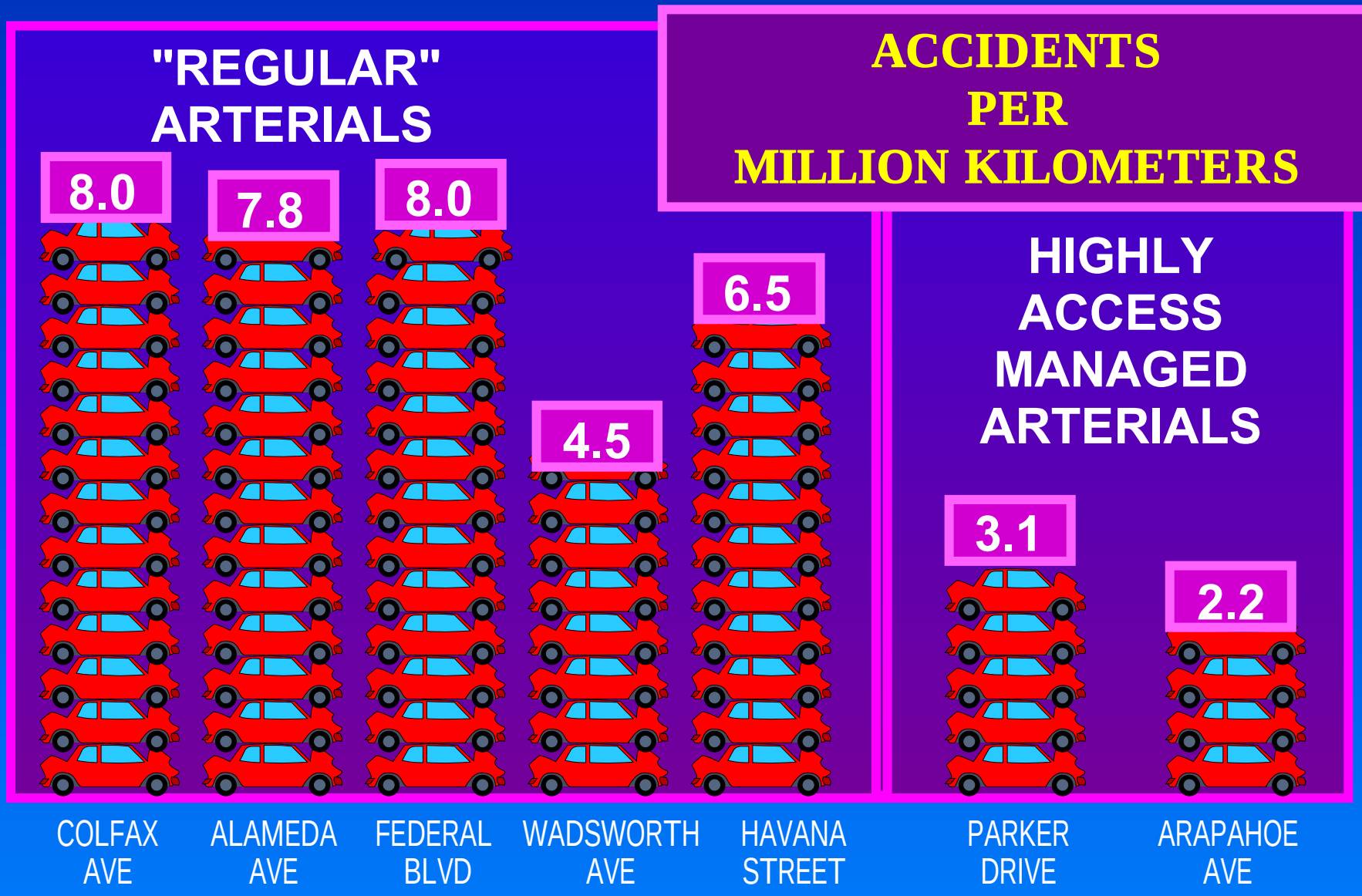
- Fewer Accidents
- Increased Capacity
- Shorter Travel Time

EFFECTS OF DRIVEWAY SPACING ON ACCIDENTS



Based on P.R. Statfield *"Accidents Related to Access Points and Advertising Signs in Study"* Traffic Quarterly (January 1953)

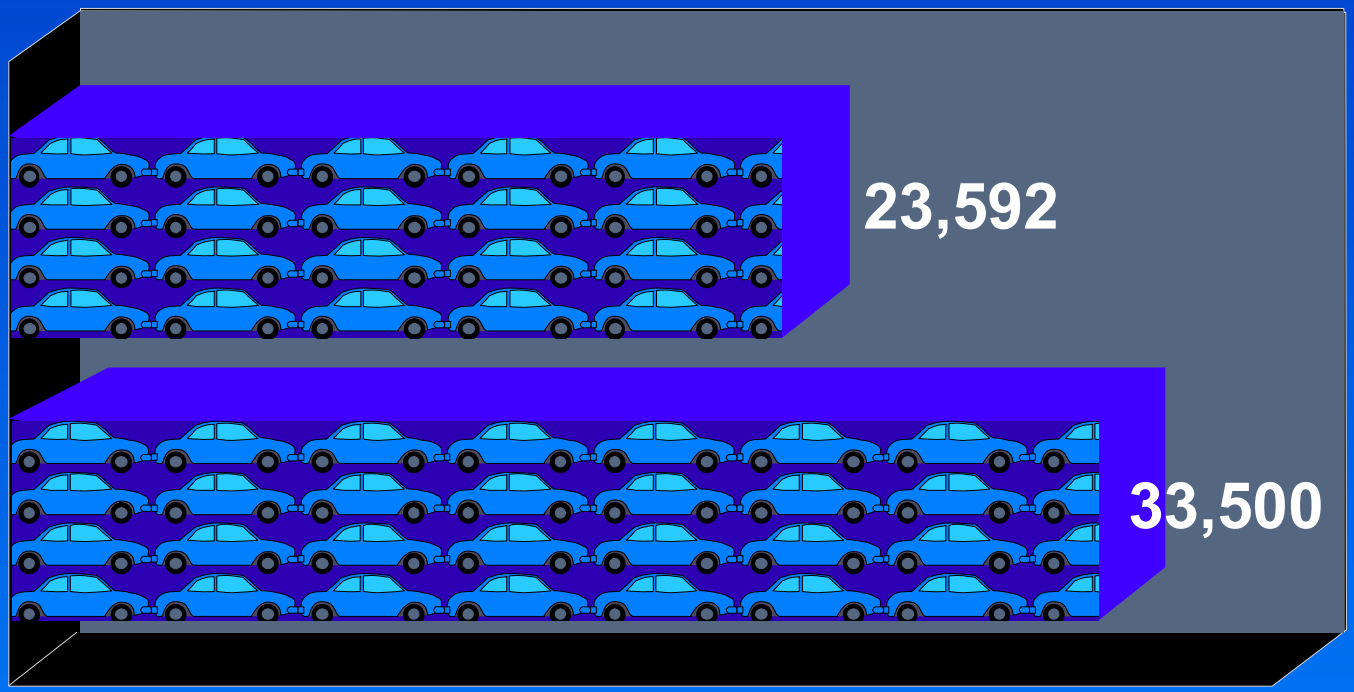
ACCIDENTS PER MILLION KILOMETERS



SOURCE: "Colorado Access Control Demonstration Project" 1985

INCREASED CAPACITY

Access Management gives us room for almost 10,000 more vehicles a day*

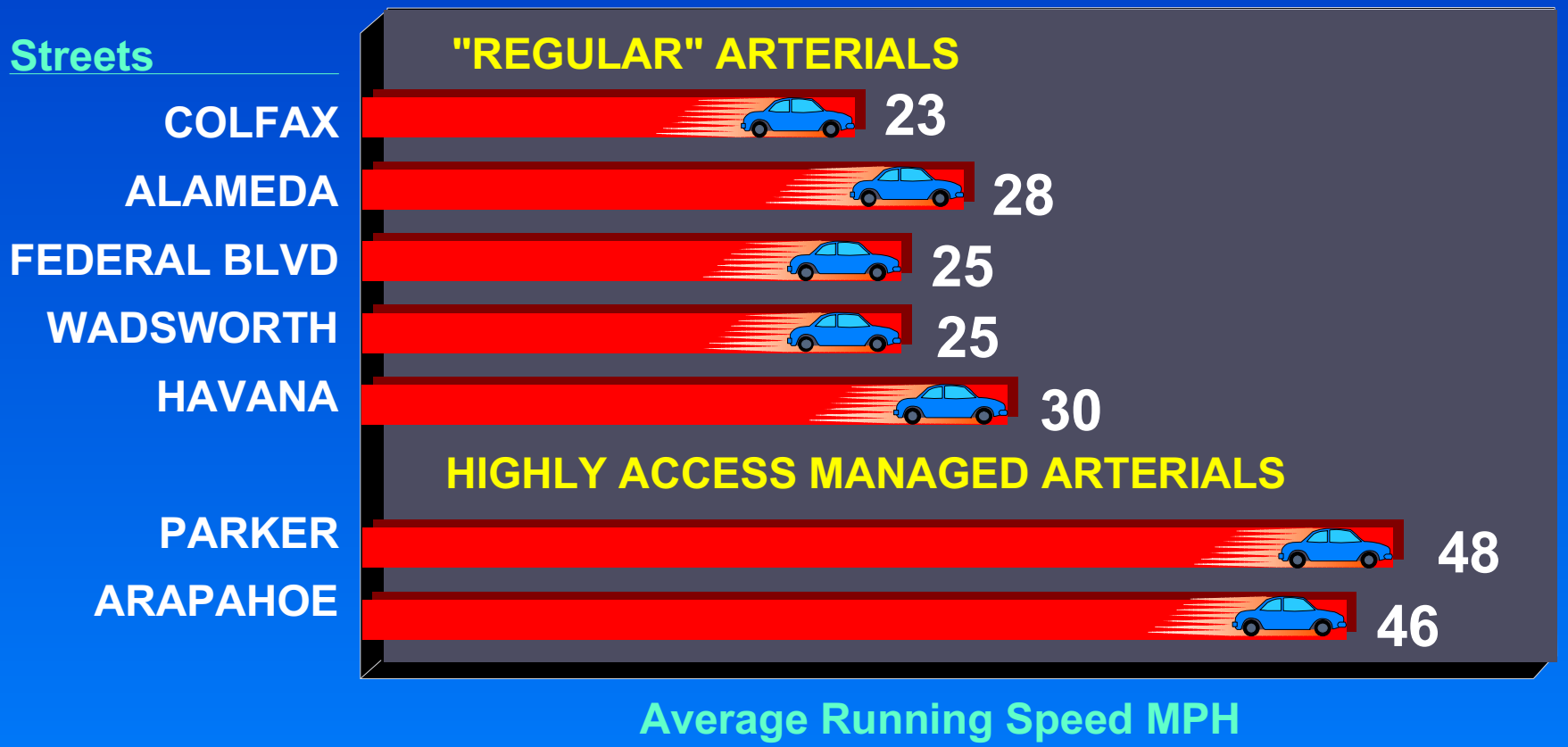


Maximum Daily Traffic at Level of Service "D" on 4-Lane Road

* Source: FDOT and 1985 Highway Capacity Manual

INCREASED CAPACITY

Effects of Access Management on Travel Speed in the P.M. Peak

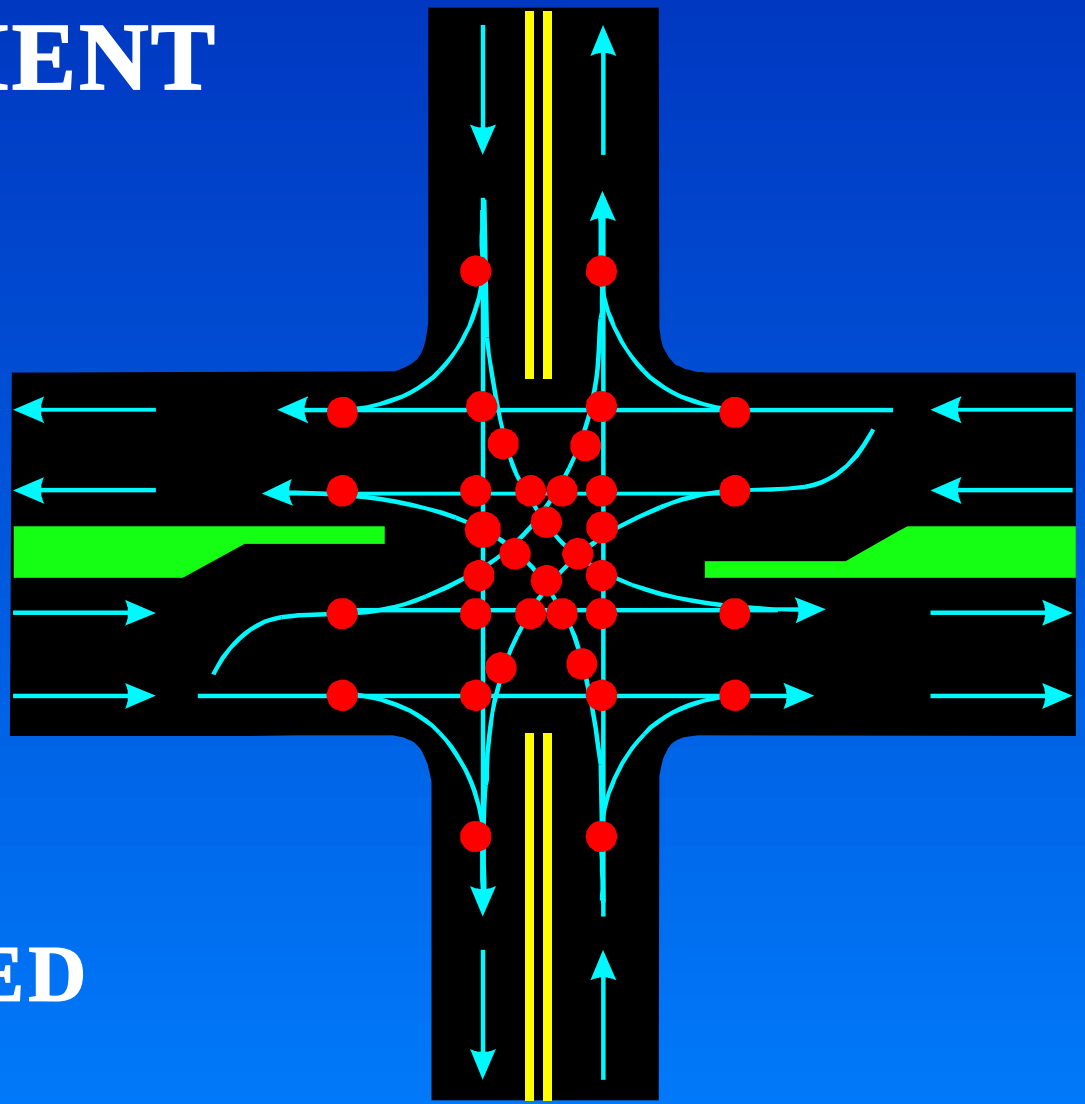


* Source: "Colorado Access Control Demonstration Project" 1985

WHAT ARE THE GOALS OF Access Management?

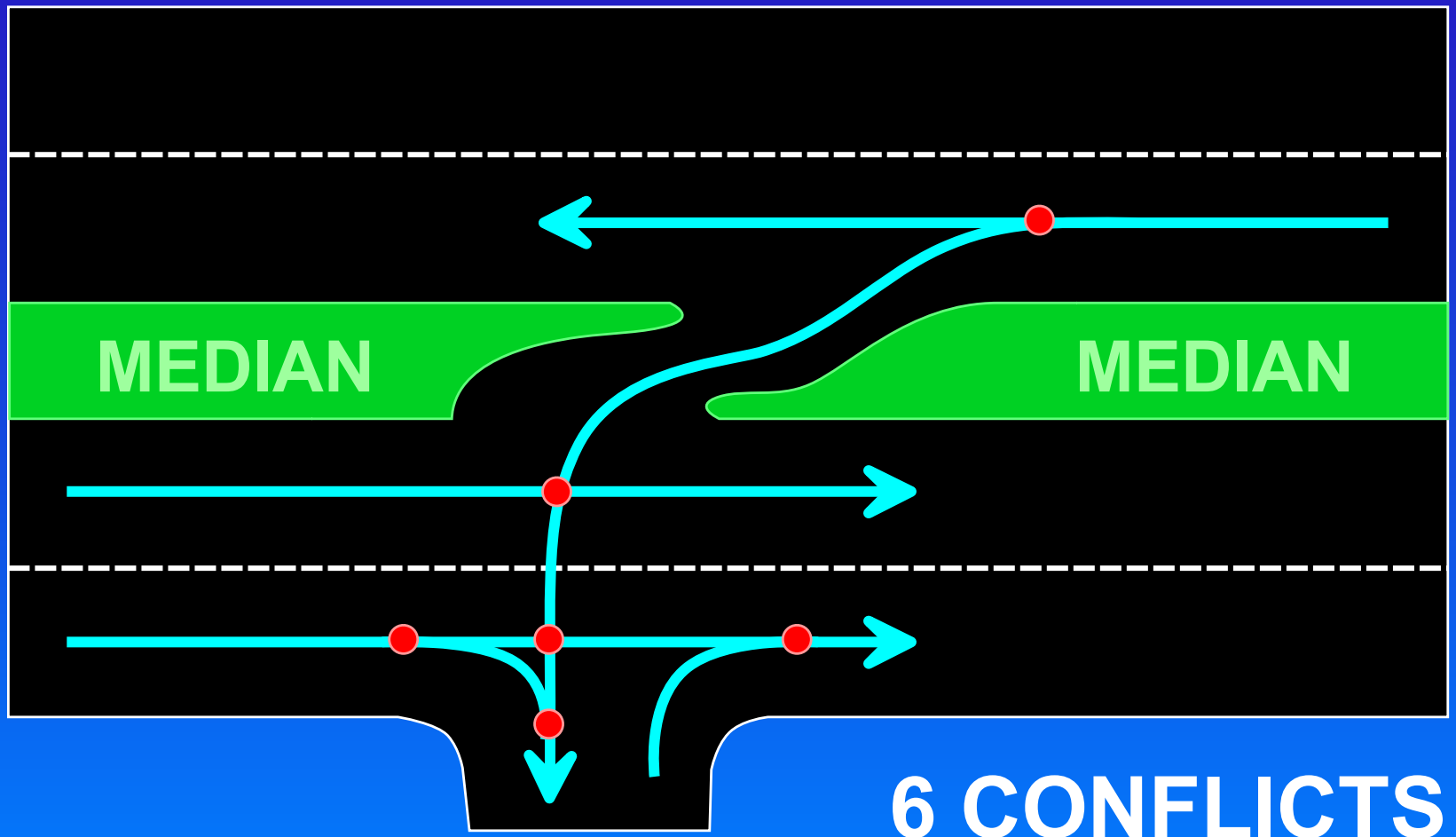
- Limit the number of conflict points
- Separate the conflict points
- Remove turning volumes and queues from through movements

FULL MOVEMENT



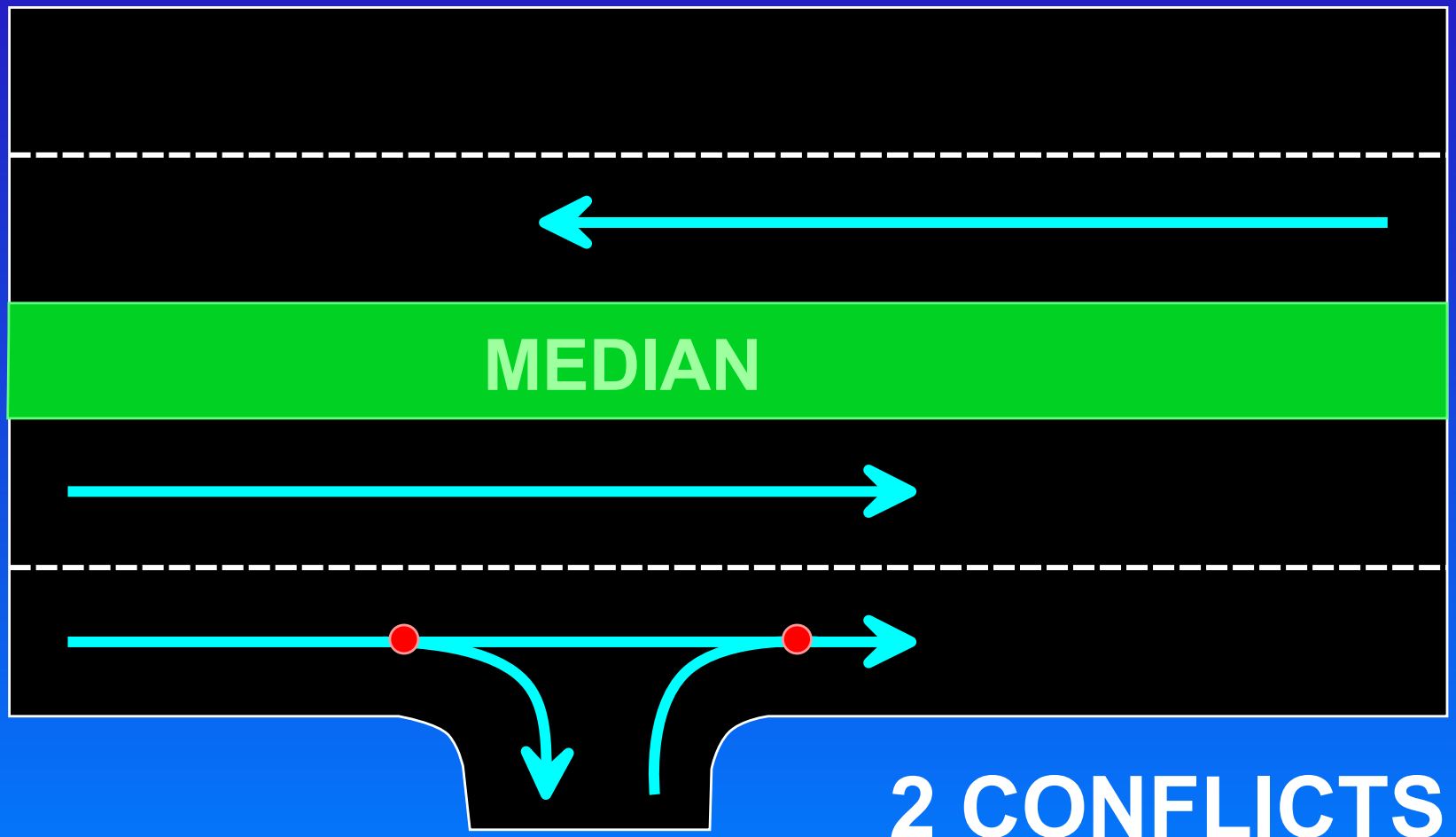
36 CONFLICTS
22 IF SIGNALIZED

RIGHT-IN / RIGHT-OUT / LEFT-IN



6 CONFLICTS

RIGHT-IN / RIGHT-OUT



2 CONFLICTS

USING MEDIANS TO REDUCE CONFLICT POINTS

What has happened where median opening spacing has been increased?

US 1 - FT. LAUDERDALE

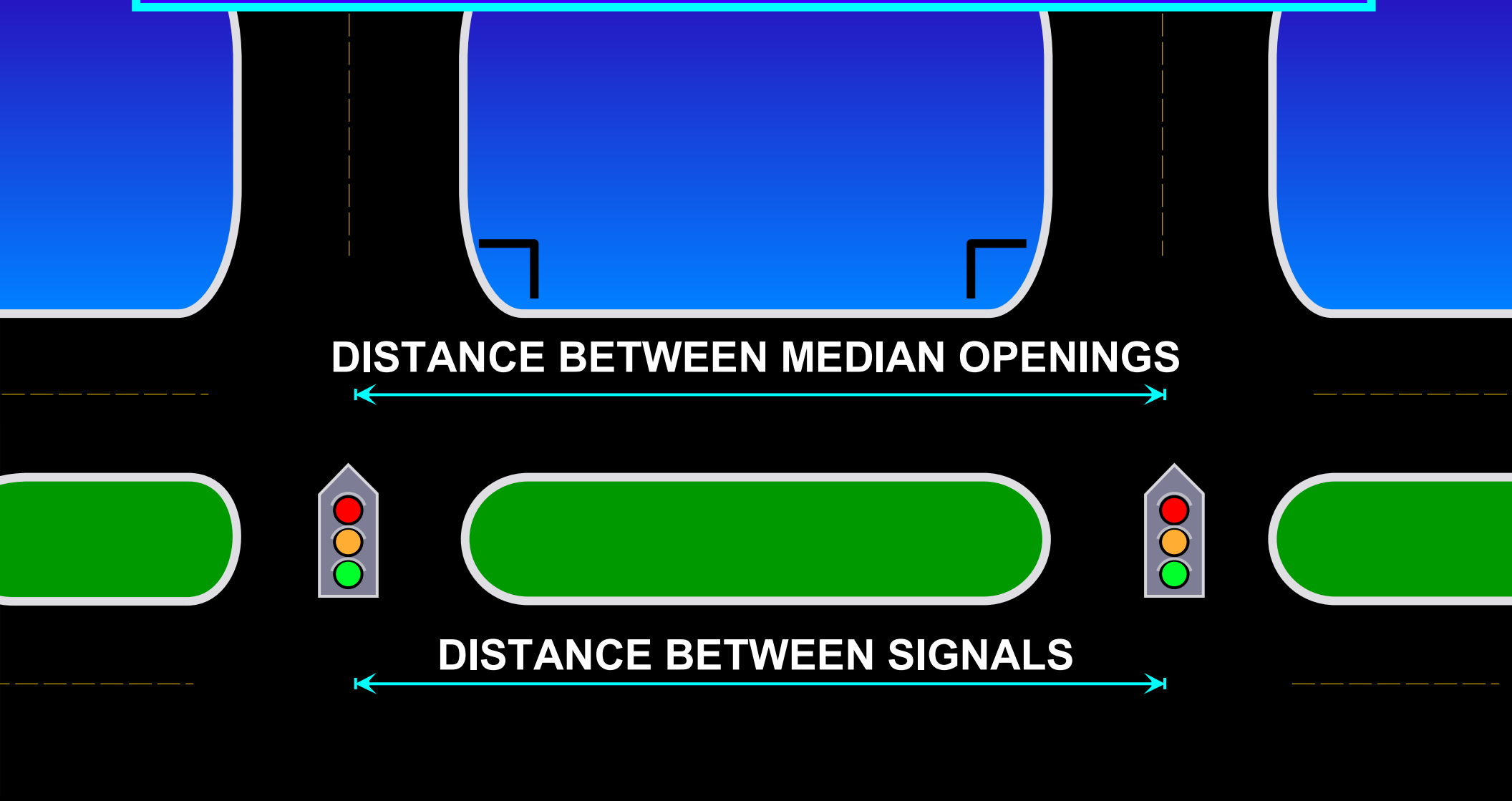
22% Reduction in crashes

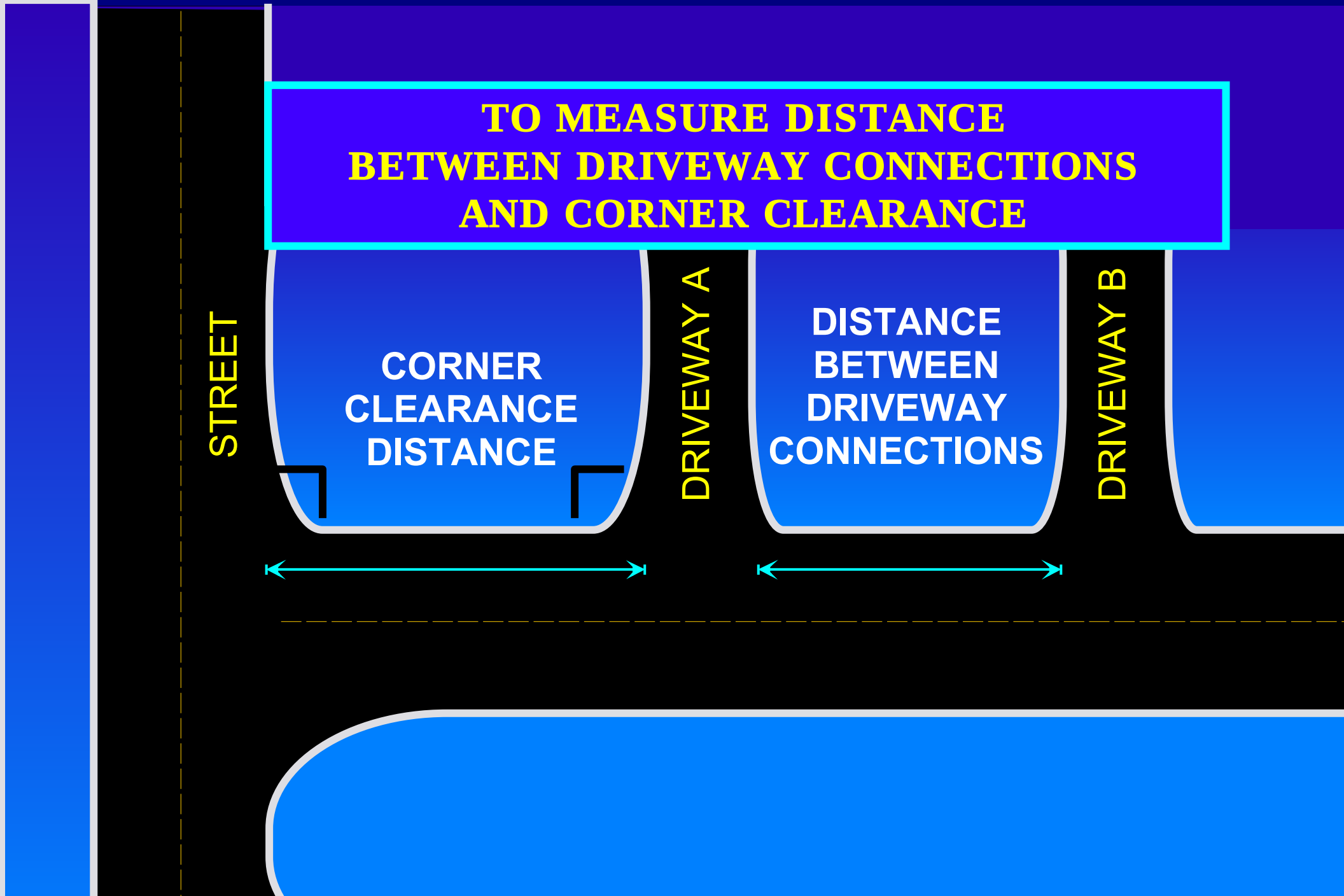
57% of customers favored the project even though their access was not as direct

WHAT ARE THE GOALS OF Access Management?

- Limit the number of conflict points
- Separate the conflict points
- Remove turning volumes and queues from through movements

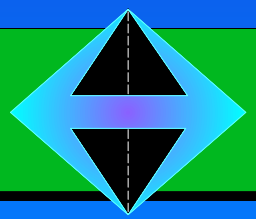
TO MEASURE DISTANCE BETWEEN MEDIAN OPENINGS & SIGNALS




TO MEASURE DISTANCE
BETWEEN DRIVEWAY CONNECTIONS
AND CORNER CLEARANCE
STREET
CORNER
CLEARANCE
DISTANCE
DRIVEWAY A
DISTANCE
BETWEEN
DRIVEWAY
CONNECTIONS
DRIVEWAY B

TECHNIQUES TO SEPARATE CONFLICT POINTS

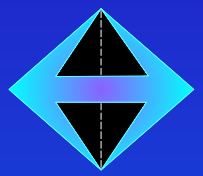
- Driveway Separation Standards
- Corner Clearance Standards
- Median Opening Standards
- Signal Spacing Standards



Florida has addressed all of these standards in regulations (Rule 14-97)

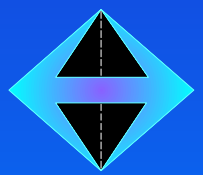
WHY SEPARATE CONFLICTS?

PRINCIPLE # 1

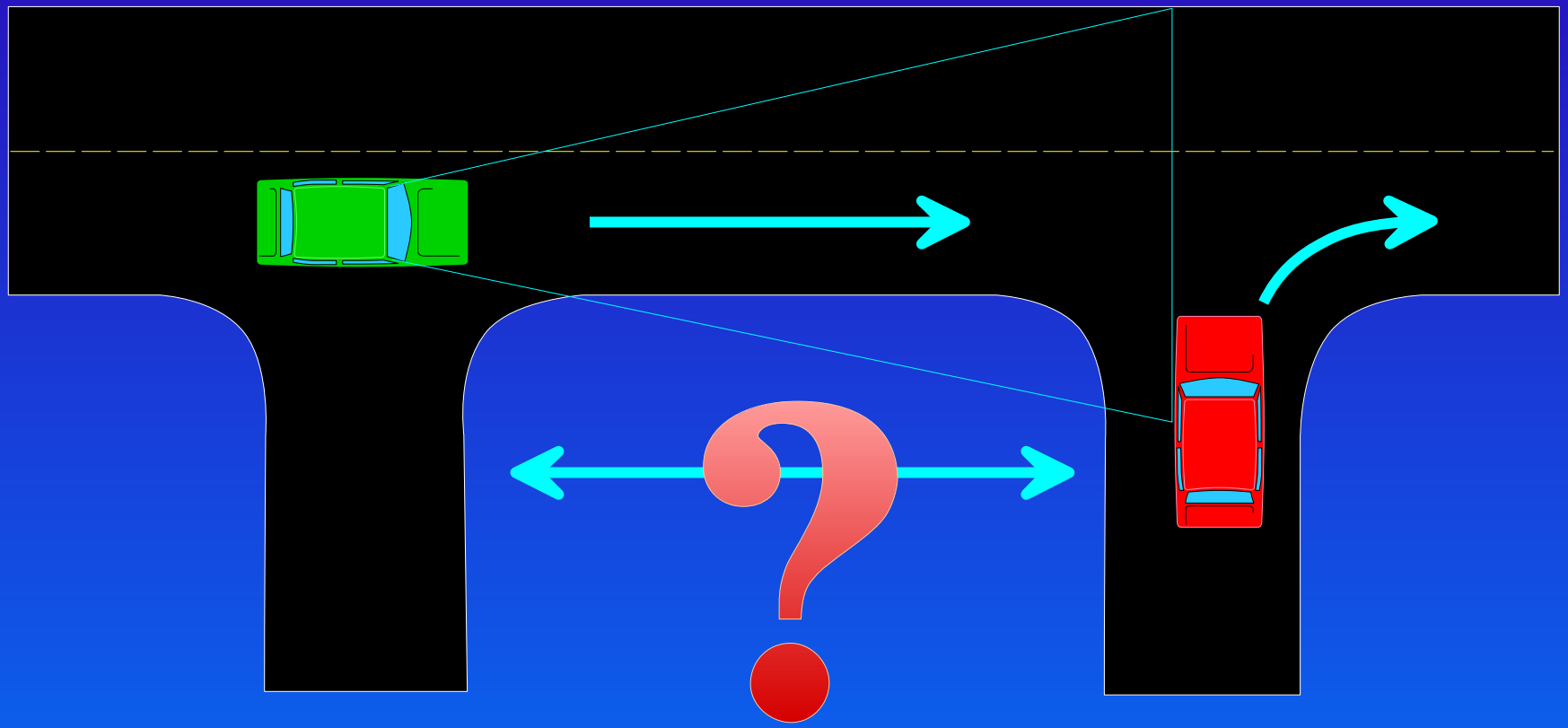


A driver can only "handle" one conflict at a time

PRINCIPLE # 2



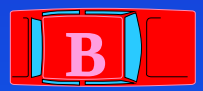
Provide enough time and space to react to the unexpected



What should this distance be?

SPEED DIFFERENTIAL

can decelerate at 6 ft/sec/sec

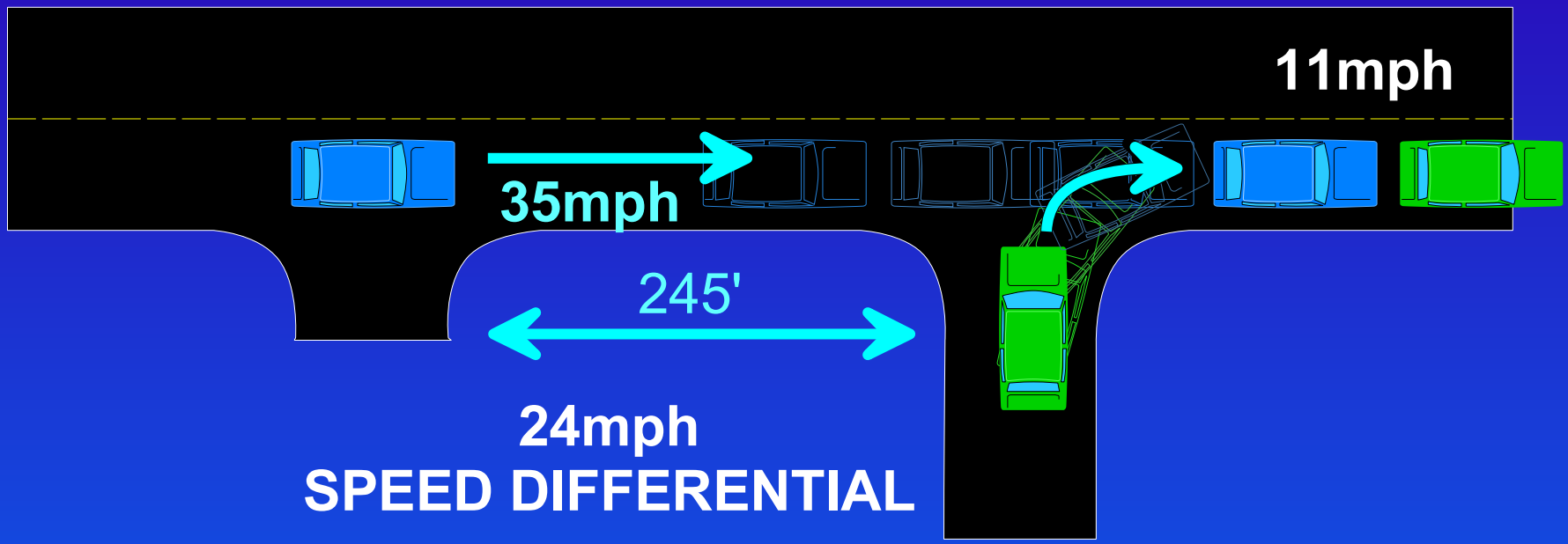


can accelerate at 2 ft/sec/sec

With a 2 second reaction time from car A, the cars will just "miss" a crash and be traveling at the same speed (~ 11mph)

This is a 24mph SPEED DIFFERENTIAL (35-24=11)

SPEED DIFFERENTIAL



The more space between driveways and access points, the less speed differential there will be

THIS INCREASES SAFETY

SOURCE: VERGIL G. STOVER, December 1982

What distances do you need between accesses to keep a 10mph speed differential?

MPH	MINIMUM SEPARATION (FEET)
40	420
45	550

SOURCE: VERGIL G. STOVER
"Guidlines for Spacing of Unsignalized Access to Urban Arterial Streets" 1981

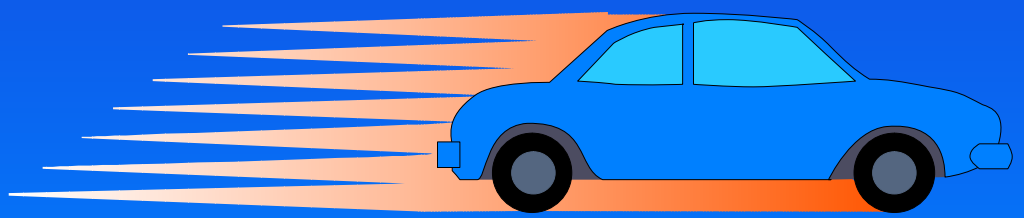
Florida has taken the concept of Access Separation further than "Speed Differential"

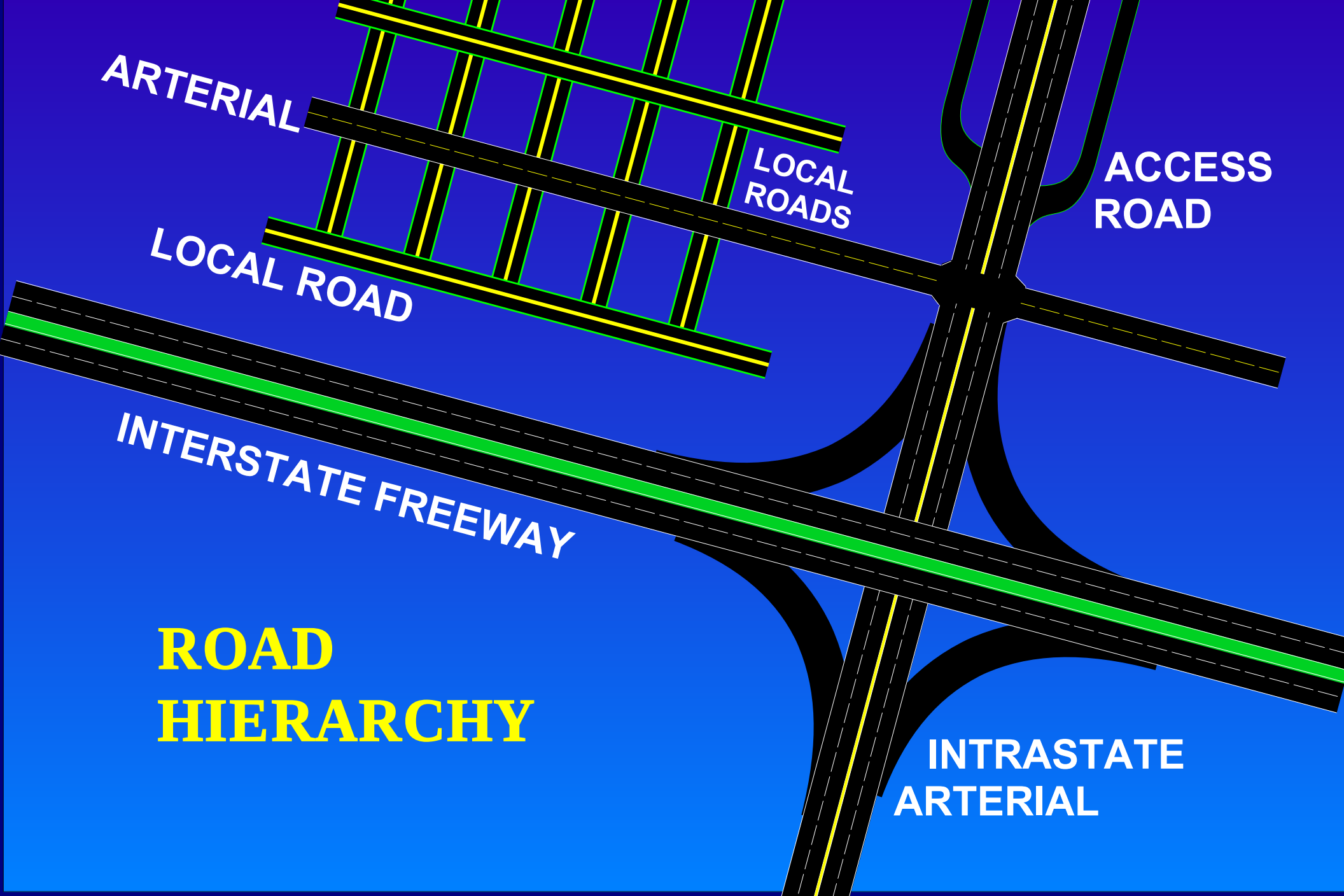
WHY?

- TO PROVIDE A LARGER SAFETY "CUSHION" FOR HIGHER SPEED, HIGHER CAPACITY ROADS
- TO ENCOURAGE "FUNCTIONAL INTEGRITY"

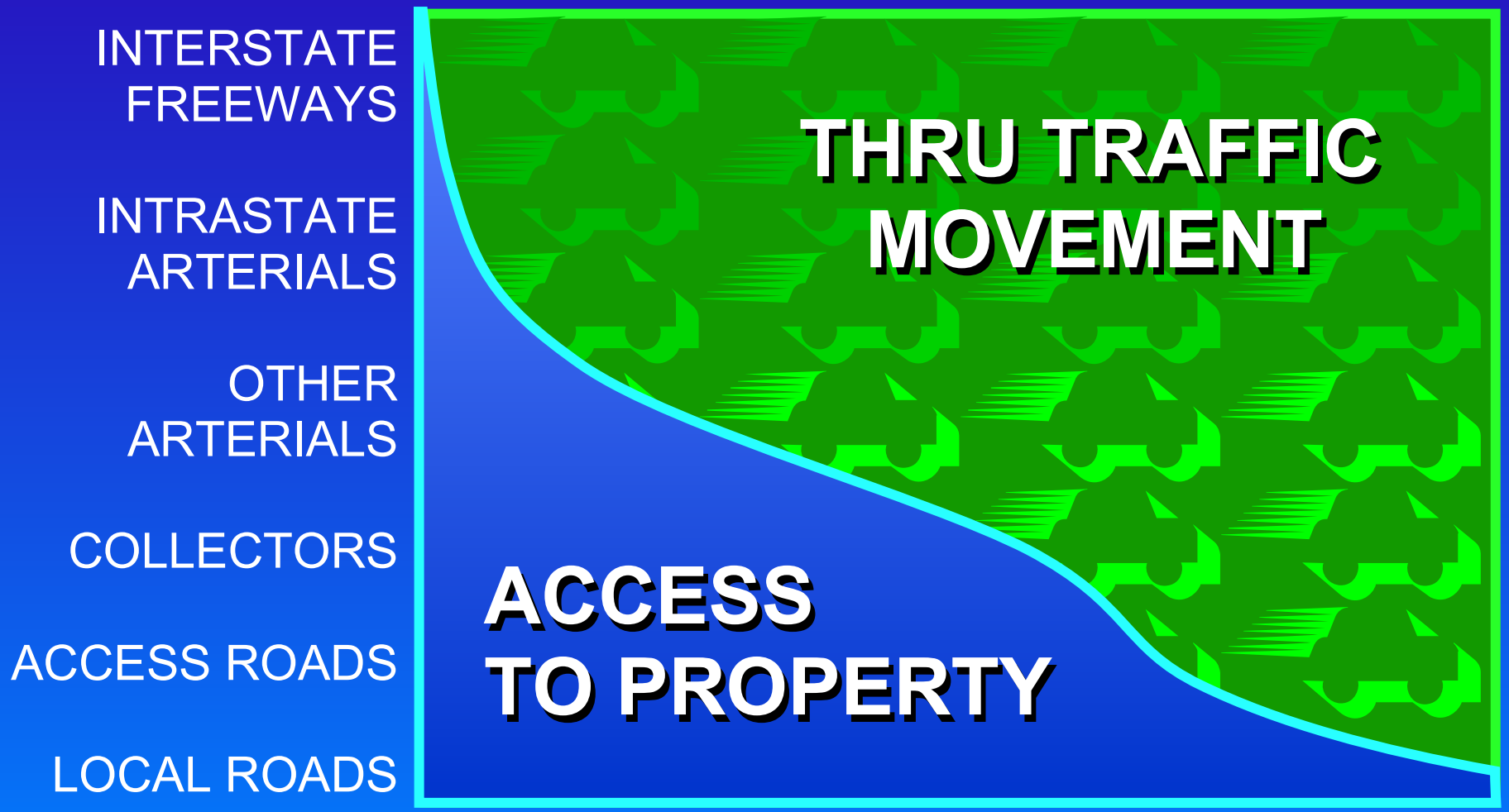
FUNTIONAL INTEGRITY

Reserving high speed,
high capacity roads
for high speed,
longer distance travel.




ARTERIAL
LOCAL ROADS
ACCESS ROAD
LOCAL ROAD
INTERSTATE FREEWAY
ROAD HIERARCHY
INTRASTATE ARTERIAL

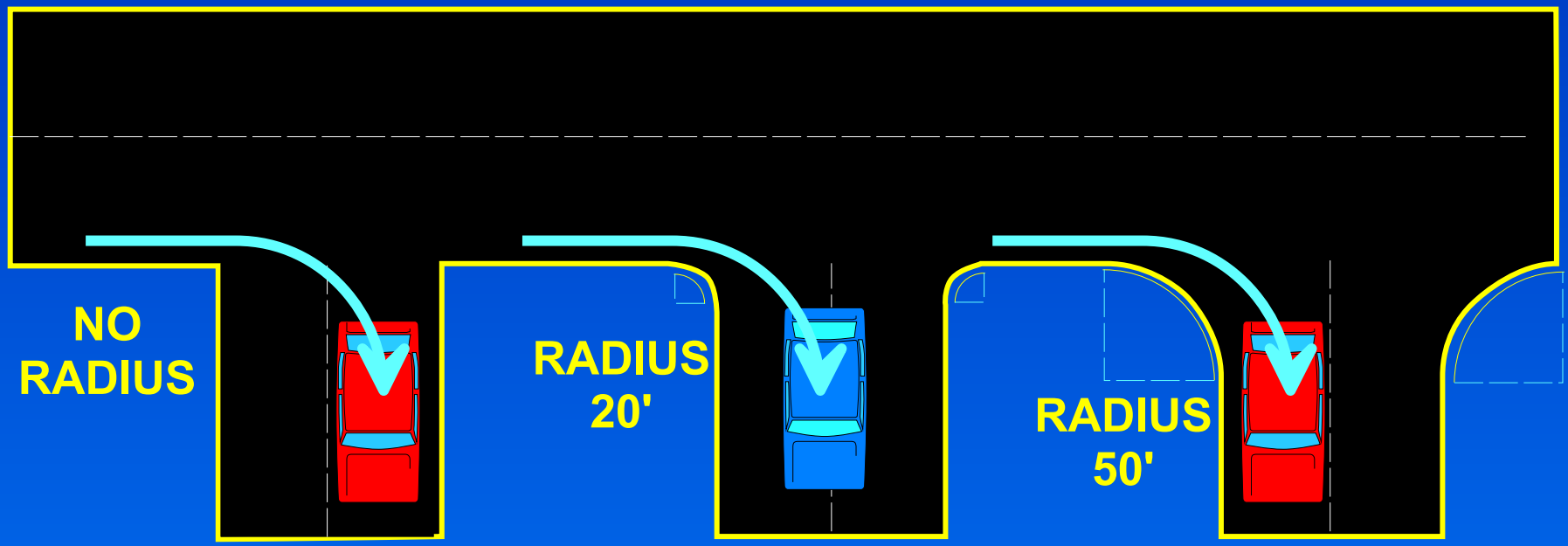
MOVEMENT/ACCESS BALANCE



What techniques are available to remove turns and queues from the through-movement?

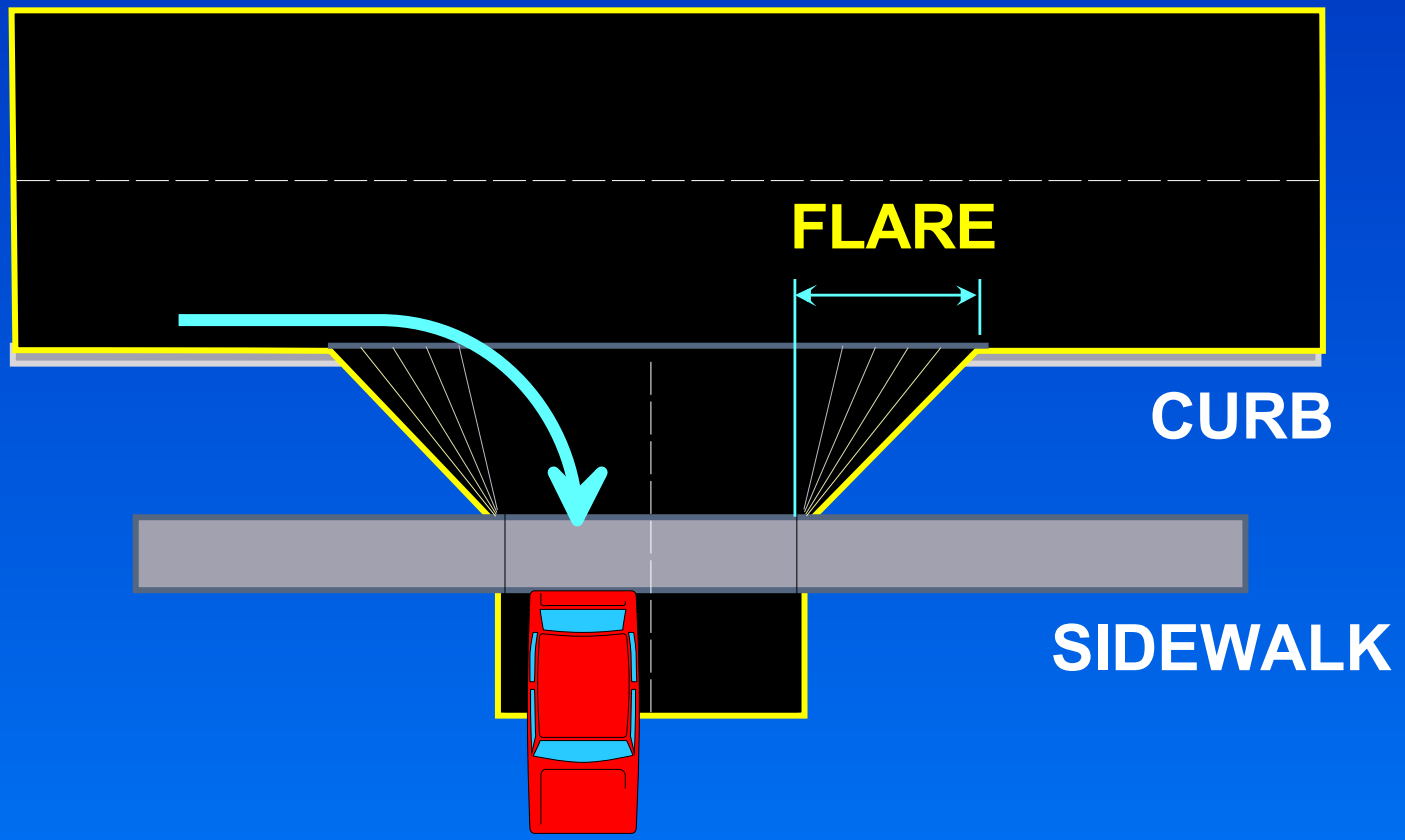
- TURN RADII / DRIVEWAY FLARE
- DRIVEWAY WIDTH
- TURN LANES / TAPERS
- INTERNAL SITE DESIGN

TURN RADII



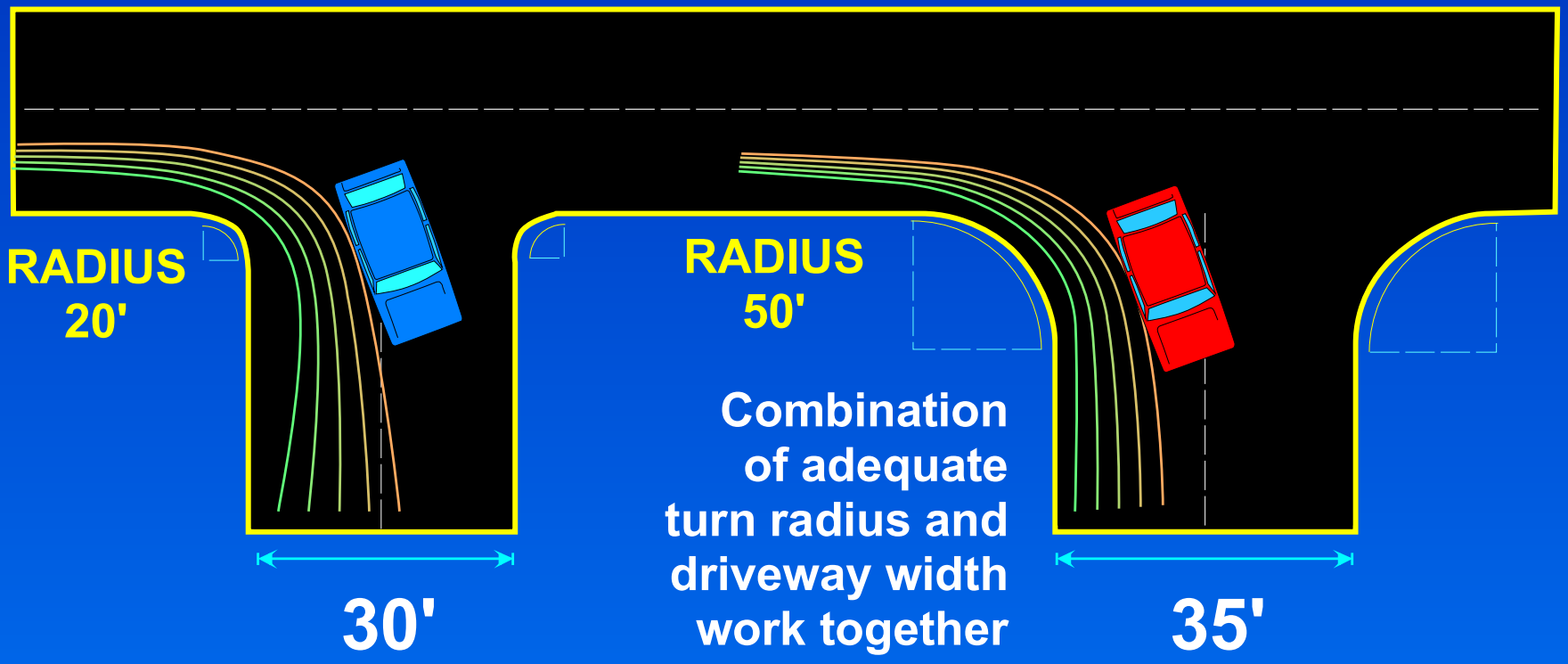
The bigger the radius, the faster the turning vehicle can get off the road and the less through-movement vehicles need to slow down

DRIVEWAY FLARE



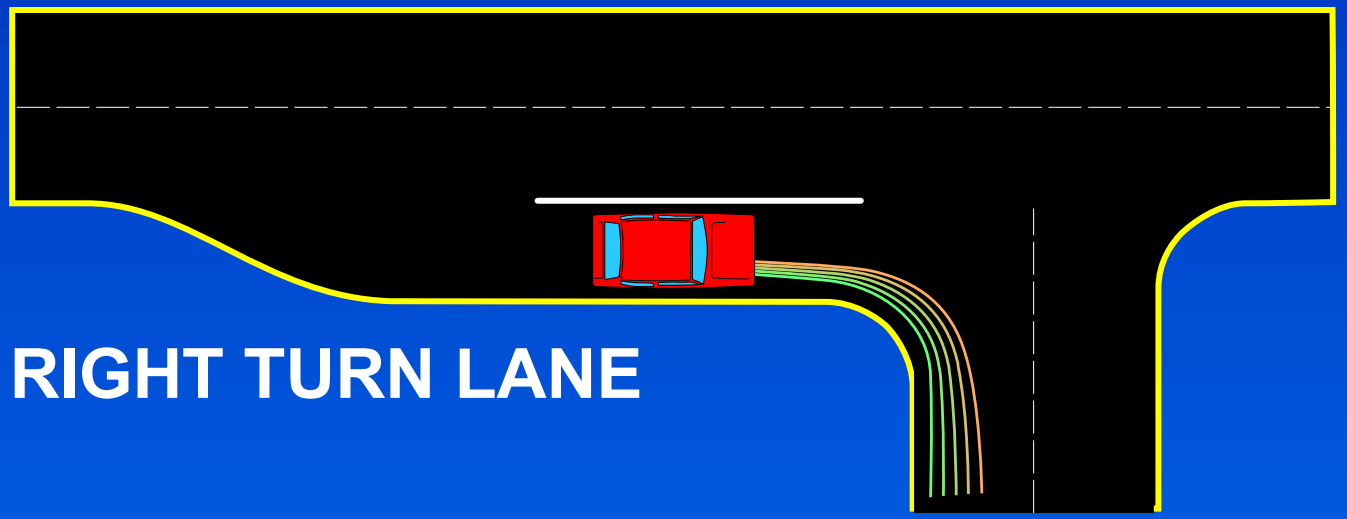
Driveway flare is used to replicate turn radius in areas with curb and gutter construction

DRIVEWAY WIDTH

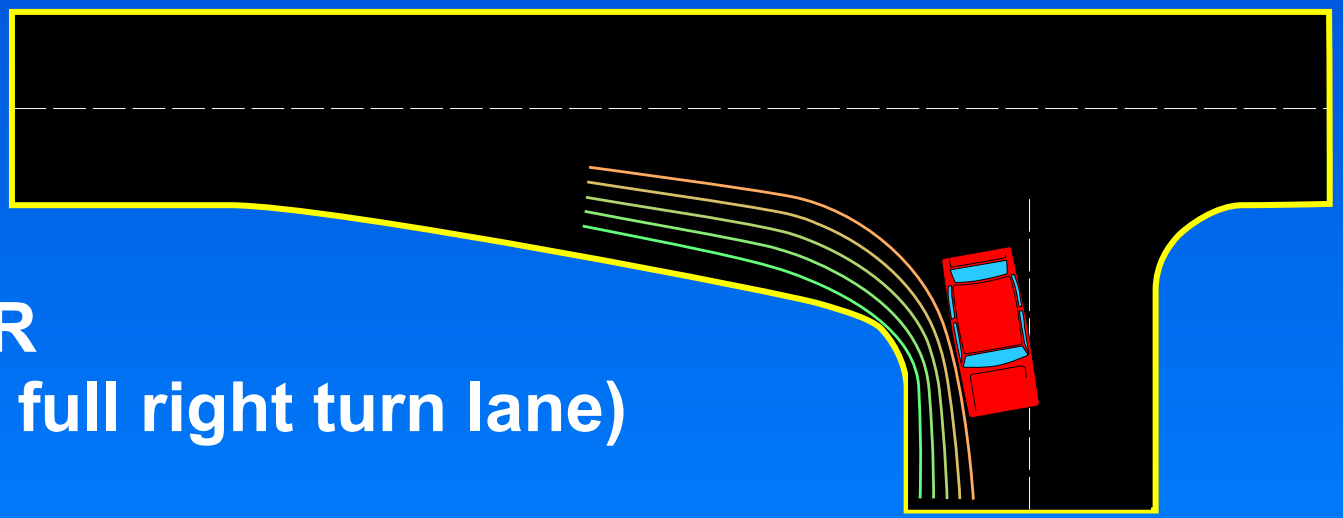


Adequate Driveway Width can also help to get turning vehicles off the road at greater speed and with less encroachment into the oncoming driveway traffic

TURN LANES

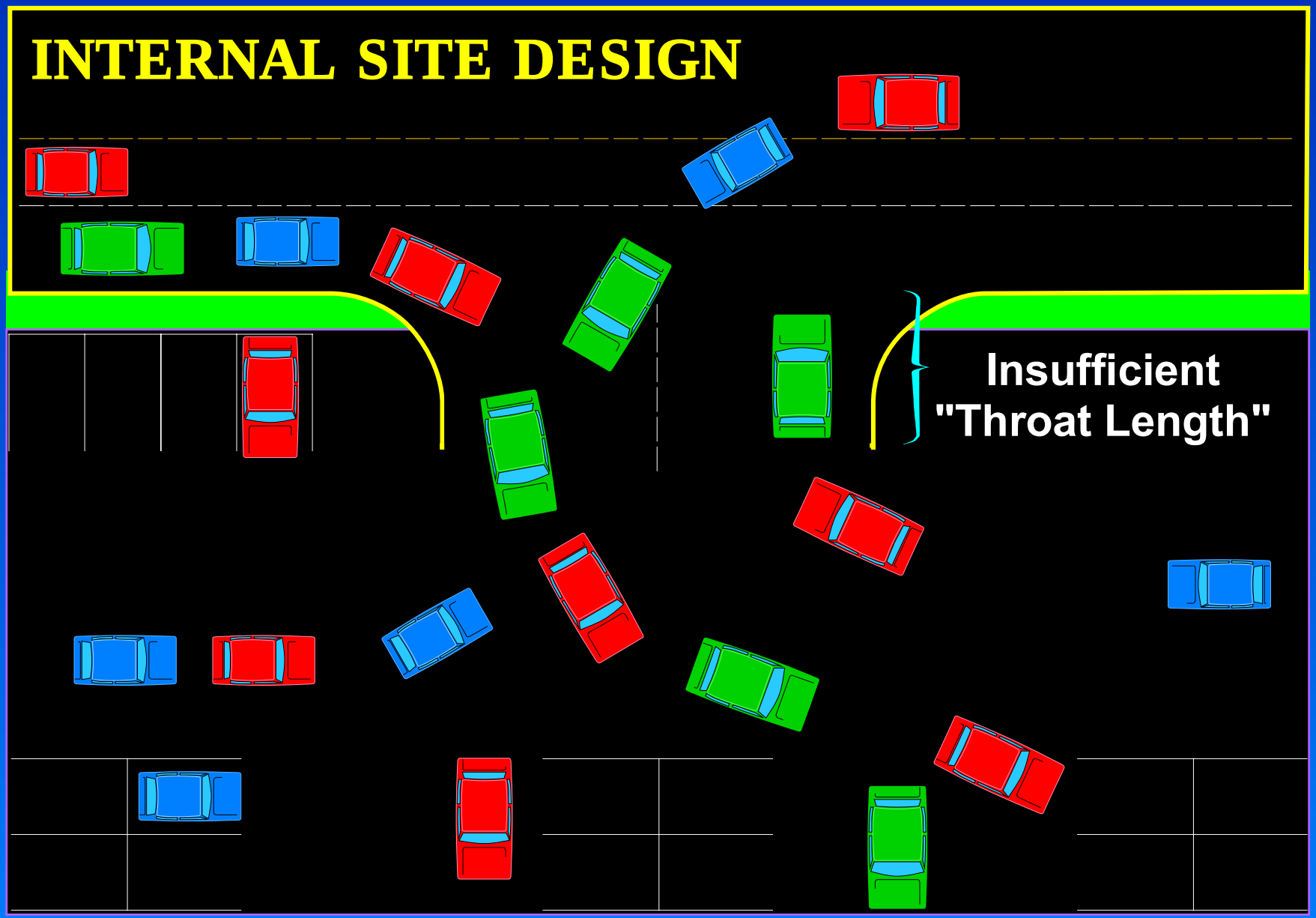


FULL RIGHT TURN LANE

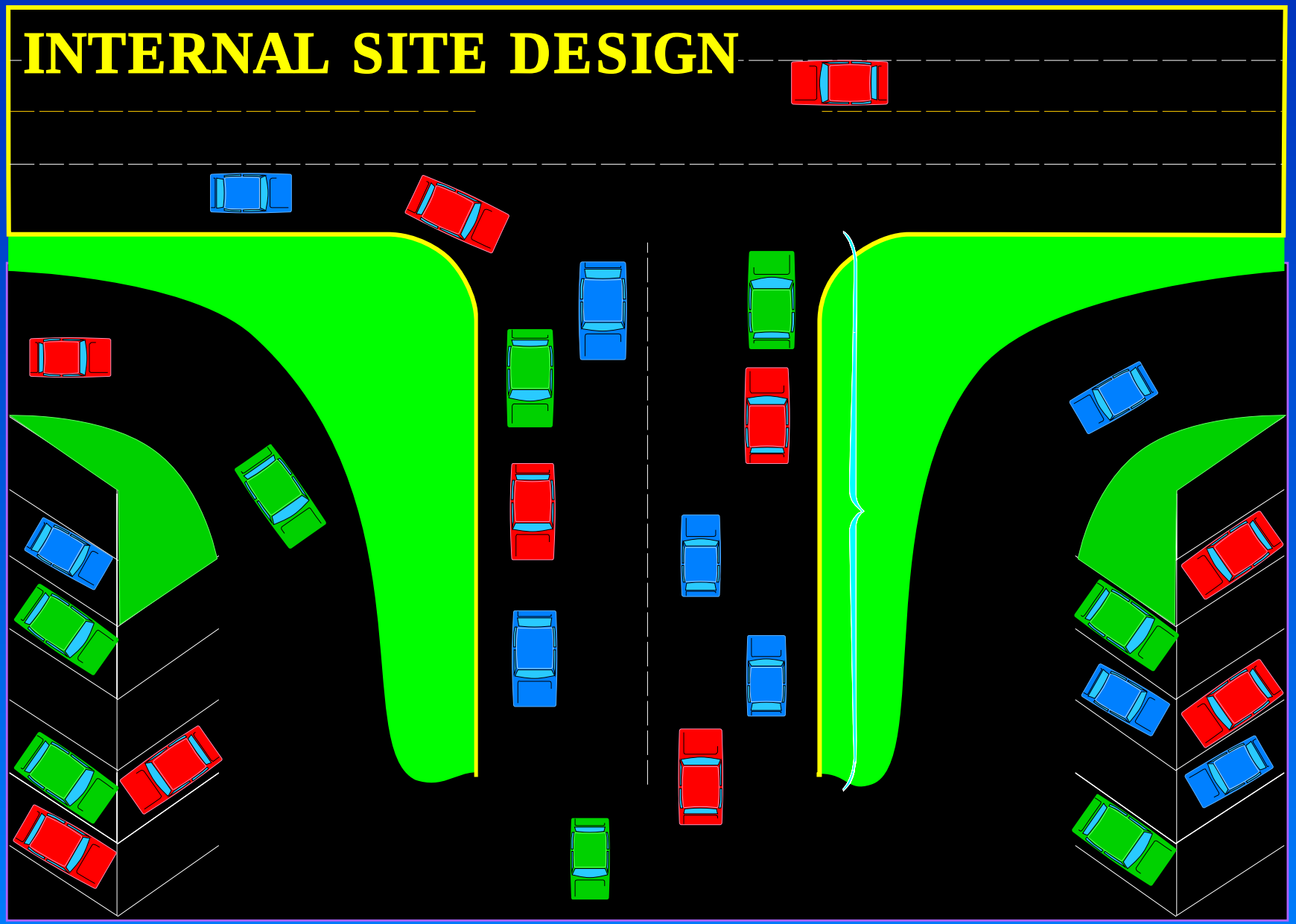


TAPER
(Not a full right turn lane)

INTERNAL SITE DESIGN



INTERNAL SITE DESIGN



Regulations and Florida Guidance on Access Management

FLORIDA STATUTE 335.18 ACCESS MANAGEMENT ACT

RULE 14-96
Dealing with the Application and Permit Process

RULE 14-97
Dealing with the Access Management Classification System and Standards for Access

STANDARD INDEX -
For geometric design and materials standards of driveways

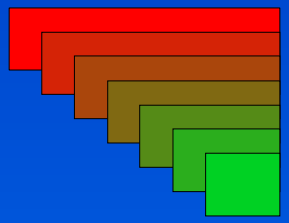
MEDIAN HANDBOOK -
Access Management procedures on district teams

14-96 THE "PERMITS" RULE

- Applications & Permits Prodecure
- Closing & Redesigning Existing Driveways
- Local Government Coordination on Permits
- Traffic Study Requirements
- Non-Conforming Driveways
- Performance Bond Requirements

14-97 THE "STANDARDS" RULE

- Establishes Access Management Classifications



1 = Freeways/Most Control
TO
7 = Least Control

- Procedure and Criteria for Establishing Classifications

Roads most intended for high speed/high volume traffic would have the highest standards

- Established Interim Standards Based on Posted Speed Limits

INTERCHANGE SPACINGS

Access Class	Area Type	Segment Location	Interchange Spacing Standard
1	Area Type 1	CBD & CBD Fringe for cities in Urbanized Areas	1 MILE
	Area Type 2	Existing Urbanized Areas other than Area Type 1	2 MILES
	Area Type 3	Transitioning Urbanized Areas and Urban Areas Other than Area Type 1 or 2	3 MILES
	Area Type 4	Rural Areas	6 MILES

ARTERIAL CLASSIFICATIONS & STANDARDS

Access Class	Medians "Restrictive" physically preventvehiclecrossing "Non-Restrictive" allow turnsaccrossatanypoint	Connection Spacing (feet)		Median Opening Spacing		Signal Spacing
		>45mph	≤45mph	Directional	Full	
2	Restrictive w/ Service Roads	1320	660	1320	2640	2640
3	Restrictive	660	440	1320	2640	2640
4	Non-Restrictive	660	440			2640
5	Restrictive	440	245	660	2640/ 1320	2640/ 1320
6	Non-Restrictive	440	245			1320
7	BothMedianTypes	125		330	660	1320

"Directional" Median openings only allow specific movements, such as left turns or "U" turns
"Full" Median openings allow all turning movements

INTERIM STANDARDS

Posted Speed (mph)	Connection Spacing (feet)	Median Opening Spacing		Signal Spacing
		Directional	Full	
35 or less Special Case	125	330	660	1320
35 or less	245	660	1320	1320
36-45	440	660	1320	1320
Over 45	660	1320	2640	1320

"Directional" Median openings only allow specific movements, such as left turns or "U" turns
"Full" Median openings allow all turning movements

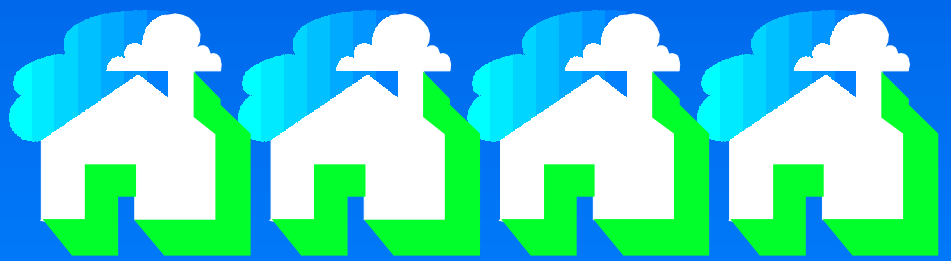
HOW CAN WE INSTITUTE ACCESS MANAGEMENT?

- PERMITTING
- ROAD IMPROVEMENTS
- COOPERATION WITH LOCAL GOVERNMENTS

HOW CAN WE INSTITUTE ACCESS MANAGEMENT?

PERMITTING

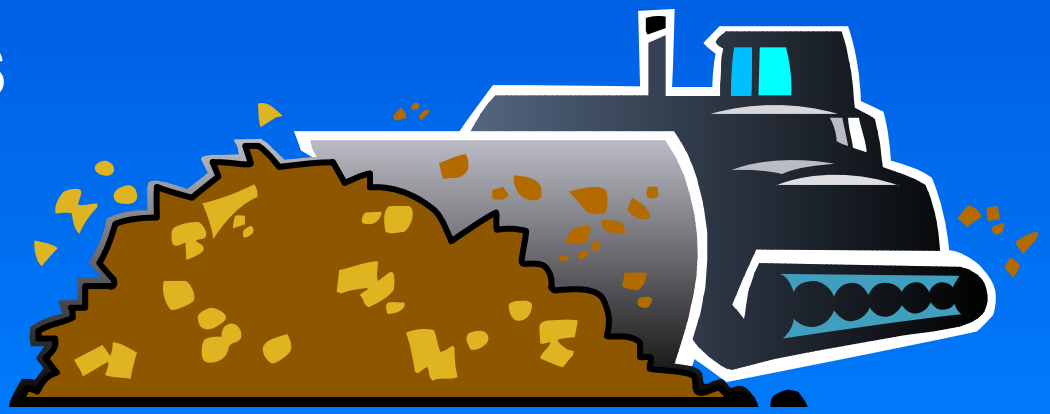
- New Developments
- Expanded Developments



HOW CAN WE INSTITUTE ACCESS MANAGEMENT?

ROAD IMPROVEMENTS

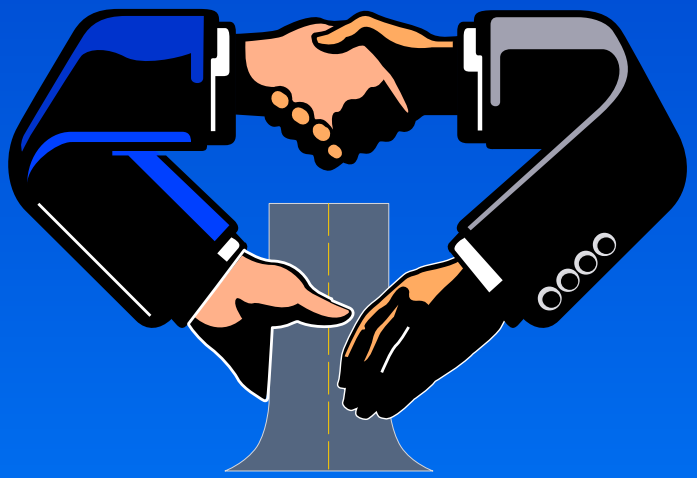
- WIDENINGS
- INTERSECTION UPGRADES
- INSTALLING NEW RESTRICTIVE MEDIANS
- NEW ROADS



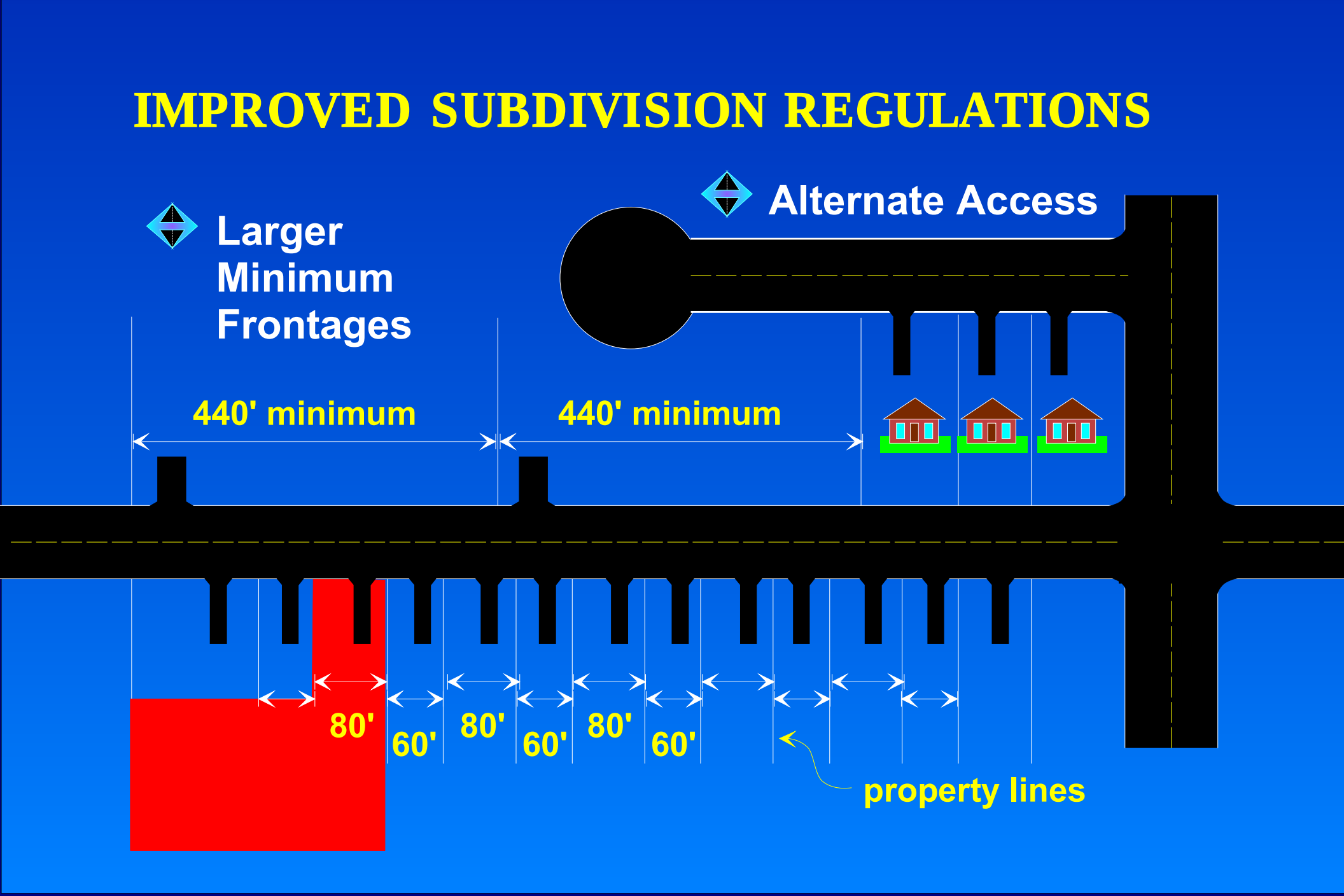
HOW CAN WE INSTITUTE ACCESS MANAGEMENT?

DEVELOP APPROVAL PROCESS IN COOPERATION WITH LOCAL GOVERNMENTS

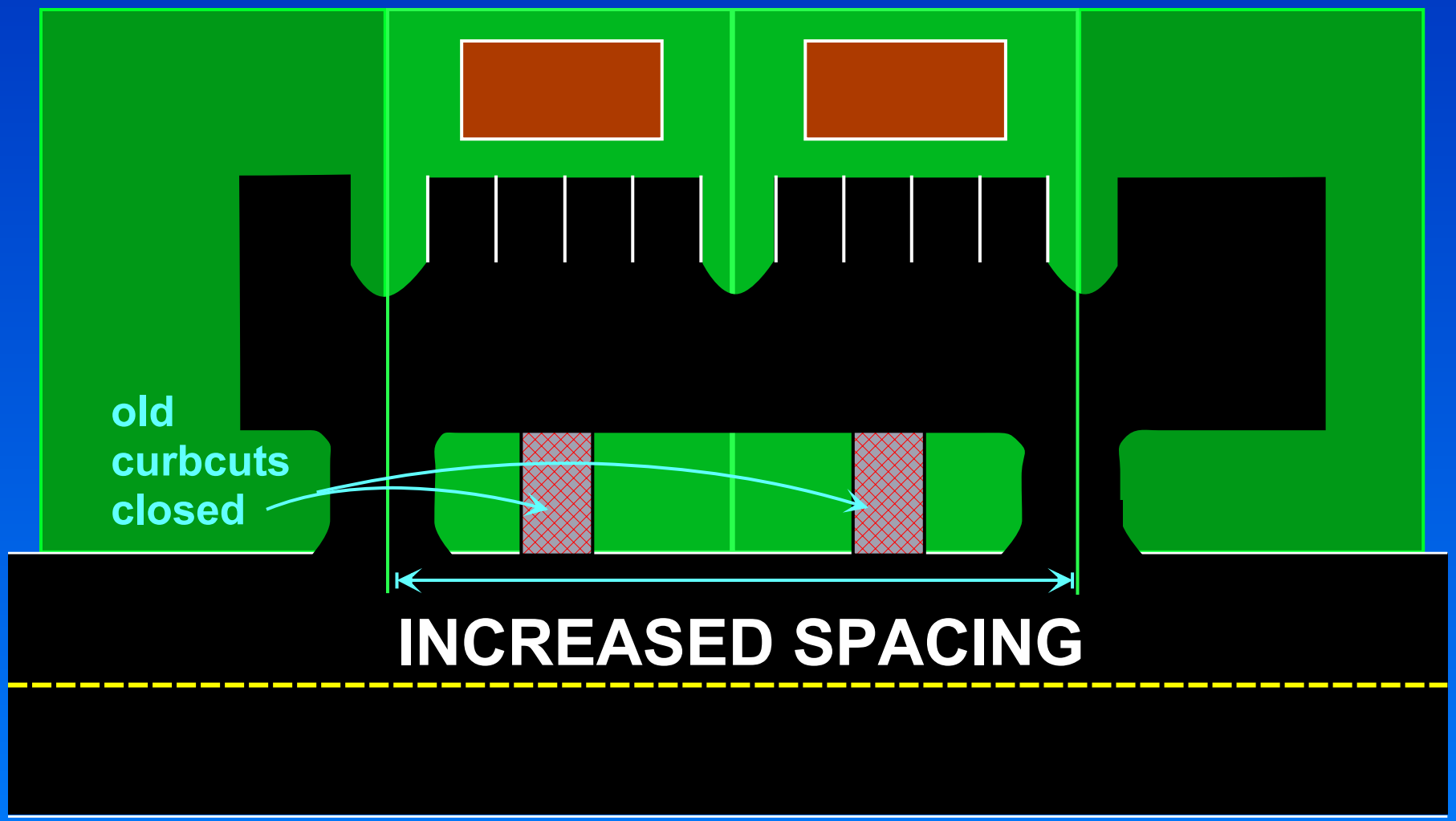
- **SITE PLAN REVIEW**
- **IMPROVED SUBDIVISION REGULATIONS**
  - Larger minimum frontages
  - No more "Flag" lots
- **JOINT ACCESS/CROSS ACCESS**



IMPROVED SUBDIVISION REGULATIONS



ENCOURAGED JOINT & CROSS ACCESS

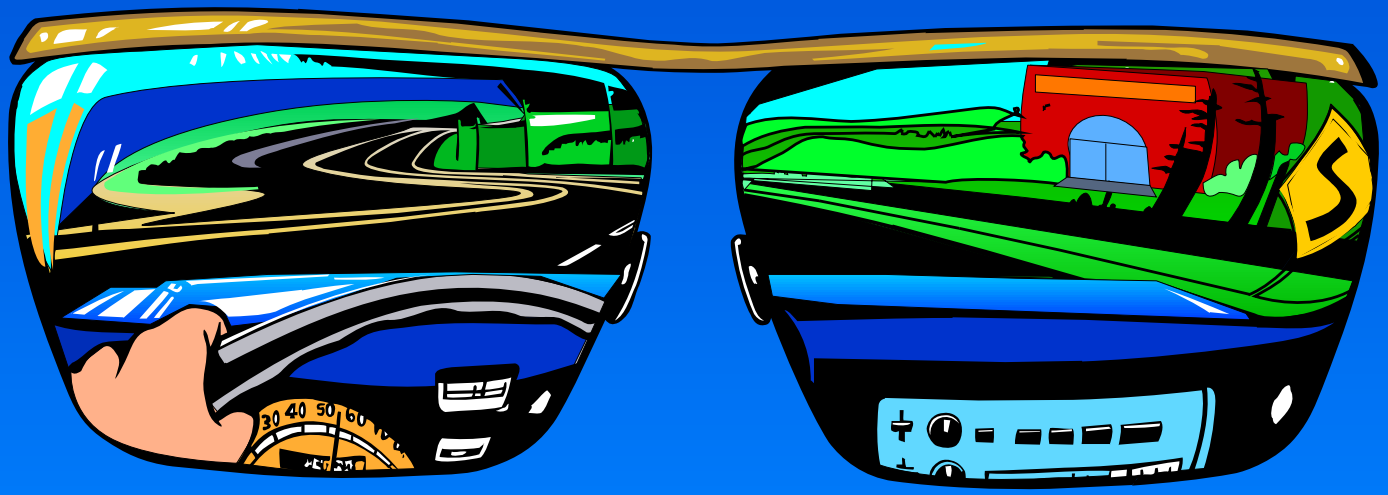


What Are The Effects Of NOT Managing Access?

- Damage to homes and businesses to widen roads
- Damage to established neighborhoods providing "1-Way Pairs" parallel to overburdened arterials
- Build "Bypass" routes which usually become as congested as the roads they were built to relieve

Who Wins If Access Is Managed Well?

- The Driver
- The Business Person
- The Governmental Agencies




ACCESS
ACCESS
ACCESS
ACCESS
SUCCESS

Access Management

The Use Of Trip Generation In Access Permitting

This is an explanation of the regulations on access management and is not a substitute for the actual laws and Administrative Rules

Produced by:

Teach America corporation